

WHAT IS CLAIMED IS:

1. A packet switching device receiving and forwarding a packet, comprising:

5 a counter indicating a storage capacity of specified packets; and

means starting a forwarding restriction of the specified packets if said counter exceeds a preset forwarding restriction start threshold value.

10 2. A packet switching device receiving a packet and, after storing the packet, forwarding the packet, comprising:

15 a counter, provided for every group to which specified packets belong, indicating a storage capacity of the specified packets belonging to the same group in received packets; and

20 means starting, if said counter exceeds a preset forwarding restriction start threshold value, a forwarding restriction of the specified packets belonging to a group associated with said counter.

3. A packet switching device according to claim 1, wherein the forwarding restriction is a process of discarding the specified packets in the
25 received packets without storing the specified packets.

4. A packet switching device according to claim 1, wherein the forwarding restriction is a process of lowering a priority of the specified packets in the received packets.

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5. A packet switching device according to claim 1, further comprising means canceling the forwarding restriction when said counter becomes smaller than a preset forwarding restriction terminating threshold value.

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6. A packet switching device according to claim 1, further comprising means adding, in the case of receiving the specified packet, a size of the received specified packet to said counter, and subtracting, in the case of forwarding the specified packet, a size of the forwarded specified packet from said counter.

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7. A packet switching device according to claim 2, further comprising means adding, in the case of receiving the specified packet, a size of the received specified packet to said counter associated with a group to which this specified packet belongs, and subtracting, in the case of forwarding the specified packet, a size of the forwarded specified packet from said counter associated with the group to

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which the specified packet belongs.

8. A packet switching device receiving and forwarding a packet, comprising:

5 means receiving a packet and storing the packet in a memory; and

 means forwarding, if a specified packet and a packet other than the specified packet are stored, the packet other than the specified packet ahead of
10 to the specified packet.

9. A packet switching device according to any one of claim 1, wherein the specified packet is a broadcast packet.

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10. A packet forwarding restriction method by which a packet switching device receiving and forwarding a packet executes a forwarding restriction of specified packets, comprising:

20 comparing a preset forwarding restriction start threshold value with a counter for indicating a storage capacity of the specified packets in received packets; and

 starting the forwarding restriction of the
25 specified packets by said packet switching device if the counter exceeds the preset forwarding restriction start threshold value.

11. A packet forwarding control method by which a packet switching device receiving and forwarding a packet executes a forwarding restriction of specified packets, comprising:

5 comparing a preset forwarding restriction start threshold value with a counter, provided for every group to which specified packets belong, indicating a storage capacity of the specified packets belonging to the same group; and

10 starting, if the counter exceeds the preset forwarding restriction start threshold value, the forwarding restriction of the specified packets belonging to a group associated with said counter by said packet switching device.

12. A packet switching device receiving and forwarding a packet, comprising:

means counting a storage size of a specified packet by adding, in the case of receiving the specified packet, a size of the received specified packet; and

means counting a storage size of a specified packet by subtracting, in the case of forwarding the specified packet, a size of the forwarded specified packet.

13. A packet switching device receiving and forwarding a packet, comprising:

means counting a group-by-group storage size of packets by effecting grouping based on information
5 added to packets, adding a packet size on a group-by-group basis in the case of receiving the specified packets; and

means counting a group-by-group storage size of packets by effecting grouping based on information
10 added to packets, subtracting a packet size on the group-by-group basis in the case of forwarding the specified packets.

14. A packet switching device according to
15 claim 12, wherein if a value counted by said counting means exceeds a predetermined threshold value, a part or the whole of specified packets are discarded by way of a forwarding restriction.

20 15. A packet switching device according to claim 12, wherein if a value counted by said counting means exceeds a predetermined threshold value, a priority of a part or the whole of specified packets is lowered by way of a forwarding restriction.

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16. A packet switching device according to claim 14, wherein if a value counted by said counting

means becomes smaller than a predetermined threshold value, the forwarding restriction is canceled.

17. A packet switching device according to
5 claim 14, wherein if a fixed period of time elapses since the forwarding restriction has been started, the forwarding restriction is canceled.

18. A packet switching device according to
10 claim 14, further comprising a buffer stored with the received packets,

wherein said buffer is prevented from being occupied with the specified packets by setting such a threshold value as to be equal to or less than a
15 fixed ratio with respect to said buffer.

19. A packet switching device according to claim 14, wherein the storage of the specific packets into said buffer does not affect unicast
20 communications by setting a readout priority of the specified packets lower than that of unicast packets.

20. A packet switching device according to claim 14, wherein buffer occupation by the broadcast
25 packets is managed on a group-by-group basis by setting such a threshold value that a total sum of threshold values of all the groups becomes equal to

or smaller than a fixed ratio with respect to said buffer possessed by said device, whereby the buffer occupation by the broadcast packet of a specified group does not affect other groups.